DOCUMENT RESUME

ED 283 013 CE 047 450

TITLE	Vegetables. Learning Activity Pack and Instructor's Guide 5.14. Commercial Foods and Culinary Arts Competency-Based Series. Section 5: Basic Food Preparation.
INSTITUTION	Florida State Univ., Tallahassee. Center for Studies in Vocational Education.
SPONS AGENCY	Florida State Dept. of Education, Tallahassee. Div. of Vocational, Adult, and Community Education.
REPORT NO	IE-348-BK-86; IE-349-BK-86
PUB DATE	Jan 86
NOTE	68p.; For other documents in this series, see CE 047 434-456.
PUB TYPE	Guides - Classroom Use - Materials (For Learner) (051) -- Guides - Classroom Use - Guides (For Teachers) (052) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Behavioral Objectives; Competency Based Education; *Cooking Instruction; *Food; Food Service; *Foods Instruction; Learning Activities; *Occupational Home Economics; Secondary Education
IDENTIFIERS	Florida; *Food Preparation; *Vegetables

ABSTRACT

This document consists of a learning activity packet (LAP) for the student and an instructor's guide for the teacher. The LAP is intended to acquaint occupational home economics students with the major types of vegetables, with the procedures for storing vegetables, and with the general rules and methods of vegetable cookery. Illustrated information sheets and learning activities are provided in these areas: types of vegetables (vegetables as plant parts, color of vegetables, market forms); storing vegetables (storing fresh, canned, frozen, and dried vegetables, and general tips for storing vegetables); and preparing vegetables (rules for vegetable cookery, preparing vegetables for cooking, and cooking methods). The instructor's guide begins with an instructional matrix in which the information sheets and written activities contained in the LAP and the written test items included in the instructor's guide are cross-referenced to the knowledge objectives addressed by the materials. This is followed by a series of notes to instructors on the LAP series and suggested instructional procedures for use in conducting individual and group enrichment activities. A unit test and answer key are included. (MN)

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LEARNING ACTIVITY PACK

5.14

SECTION 5

Vegetables

Basic Food Preparation

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Sponsored and published by:
Florida Department of Education
Ralph D. Turlington, Commissioner of Education

Produced by:
The Center for Instructional Development and Services
(Formerly The Center for Studies in Vocational Education)
Florida State University

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LEARNING ACTIVITY PACKET

5.14

SECTION 5

Vegetables

Basic Food Preparation

State of Florida
Department of Education
Ralph D. Turlington, Commissioner of Education
Tallahassee, Florida
Affirmative action/equal opportunity employer

Division of Vocational, Adult, and Community Education

January 1986

Acknowledgments

The Division of Vocational, Adult, and Community Education, Florida Department of Education wishes to express its gratitude to the agencies listed, which have granted permission for Florida to adapt the following materials:

Quantity Foods, developed by the 916 Vocational-Technical Center, White Bear Lake, Minnesota.

Food Management, Production, and Services: Competency-Based Curriculum, developed for the Tennessee State Department of Education, Division of Vocational Education, Nashville, Tennessee.

Career Related Instruction Series: *Baking and Pastry; Food Preparation; Food Service,* developed at the Capital Area Career Center, Mason, Michigan.

Also used were:

Employability Skills Series: *Good Work!* and *Food Production and Services: Learning Manager's Guide*, developed by the Florida Division of Vocational, Adult, and Community Education.

Subject matter experts who reviewed materials from around the nation, selected the materials to be adapted, and used their considerable experience and talents to monitor the development process were:

William Jacoby, St. Augustine Technical Center

Richard Petrello, Withlacoochee Area Vocational-Technical Center

William Petsch, Pinellas Vocational-Technical Institute

Nancy Steryous, St. Petersburg Vocational-Technical Institute

Bill White, Northeast Senior High School, St. Petersburg

John Wright, Westside Vocational Skills Center, Jacksonville

Ronald Zabkiewicz, South Technical Education Center, Boynton Beach

Assistance on the project was also given by:

Valeria Mason and Iris Helveston, Regional Program Consultants, Division of Vocational, Adult, and Community Education

The following individuals at The Center for Instructional Development and Services, Florida State University, adapted the materials:

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Purpose and Contents

Purpose

The purpose of LAP 5.14 is to acquaint you with the major types of vegetables, with the procedures for storing vegetables, and with the general rules and methods of vegetable cookery.

Contents

Introduction 2

Vocabulary 4

Types of Vegetables 6
Vegetables as Plant Parts 6
Color of Vegetables 7
Market Forms 8

Storing Vegetables 15
Storing Fresh Vegetables 15
Storing Canned Vegetables 15
Storing Frozen Vegetables 15
Storing Dried Vegetables 16
General Tips for Storing Vegetables 16

Preparing Vegetables 18
Rules for Vegetable Cookery 18
Preparing Vegetables for Cooking 18
Cooking Methods 20

Answer Keys for Written Activities 32

Introduction

Written Test

You will be able to pass the written test for LAP 5.14 when you can successfully complete the following:

1. Match a list of vocabulary words with their definitions. (At least 5 out of 6 must be correct.)
2. Choose the correct words or phrases to complete statements about types of vegetables. (At least 9 out of 10 must be correct.)
3. Match a list of vegetables with the parts of the plant they come from. (At least 13 out of 16 must be correct.)
4. Match a list of green, yellow, and white vegetables with appropriate cooking methods. (At least 10 out of 12 must be correct.)
5. Identify the major market forms of vegetables and match them with cooking methods. (All 4 must be correct.)
6. Choose the correct words or phrases to complete statements about storing vegetables. (At least 7 out of 8 must be correct.)
7. Choose the correct words or phrases to complete statements about preparing vegetables. (At least 10 out of 12 must be correct.)
8. Match a list of cutting terms with illustrations. (At least 4 out of 5 must be correct.)

If you feel you know enough to pass the written test for LAP 5.14 before studying it, talk with your instructor.

Skills Test

You will be able to pass the skills test for LAP 5.14 when you complete the following successfully:

1. **Clean, trim, and cut vegetables.** The vegetables must be clean, free of blemishes, correctly and uniformly cut, and they must keep their natural color.
2. **Prepare vegetables.** The vegetables must keep their natural shape and color. They must be easy to cut but not too soft. If fried, they must also be free of excess grease, crisp, and evenly browned.

REMEMBER . . . Your final performance will also be judged on how well you:

- organize your work area for efficient production before starting,
- follow the steps correctly in the right order, and
- clean your work area when you are finished.

If you feel you know enough to pass the skills test for LAP 5.14 before practicing the skills, talk with your instructor.

Introduction (continued)

Learning Steps

To help you pass the written and skills tests for this LAP, you should follow these learning steps in order. There are two kinds of activities you will be asked to do:

Written activities will prepare you for the **written test**. They should all be done on a separate sheet of paper. The answers for these activities are in the back of this LAP. **Do not write in this LAP!**

Practice Checklist activities will prepare you for the **skills test**. These will be done in the kitchen or dining area. Check with your instructor before beginning these activities.

1. Read and study **Information Sheet 1:** Vocabulary.
2. Complete **Activity 1:** Matching Vocabulary Words. Check your answers.
3. Read and study **Information Sheet 2:** Types of Vegetables.
4. Complete **Activity 2A:** Types of Vegetables. Check your answers.
5. Complete **Activity 2B:** Vegetables as Plant Parts. Check your answers.
6. Complete **Activity 2C:** Color of Vegetables. Check your answers.
7. Complete **Activity 2D:** Market Forms. Check your answers.
8. Read and study **Information Sheet 3:** Storing Vegetables.
9. Complete **Activity 3:** Storing Vegetables. Check your answers.
10. Read and study **Information Sheet 4:** Preparing Vegetables.
11. Complete **Activity 4A:** Preparing Vegetables. Check your answers.
12. Complete **Activity 4B:** Cutting Terms. Check your answers.
13. Complete **Activity 4C:** Practice Checklist—Prepare Vegetables. Ask your instructor which cooking methods to practice.
14. Get **Written Test 5.14** from your instructor and complete it. If you are successful, go on to Step 15; if not, talk with your instructor.
15. Have your instructor evaluate you on **Skills Test 5.14.** If you are successful, you have completed this LAP; if not, talk with your instructor.

Information Sheet 1
Vocabulary

The following words will be used in this LAP. Study the list. When you think you know all the words, test yourself by doing the practice activity.

1. **nutrient**—a substance or ingredient that provides nourishment, or food value
2. **perishable**—liable to decay (spoil or rot)
3. **ventilate**—to expose to moving air
4. **uniform**—having the same form, not varying; said of sizes, patterns, colors, etc.
5. **pigment**—a coloring substance in animals and plants
6. **dehydrated**—the water content has been removed

Activity 1
Matching Vocabulary Words

Directions

On a separate sheet of paper, write the vocabulary words listed below. Then write beside each word its correct definition, chosen from the list that follows.

DO NOT WRITE IN THIS LAP

Vocabulary Words

1. **nutrient** _____
2. **perishable** _____
3. **ventilate** _____
4. **uniform** _____
5. **pigment** _____
6. **dehydrated** _____

Definitions

Liable to decay (spoil or rot)

A substance or ingredient that provides nourishment, or food value

Having the same form, not varying; said of sizes, patterns, colors, etc.

The water content has been removed

To expose to moving air

A coloring substance in animals and plants

Check your answers in the back of this LAP. If you missed any, review Information Sheet 1.

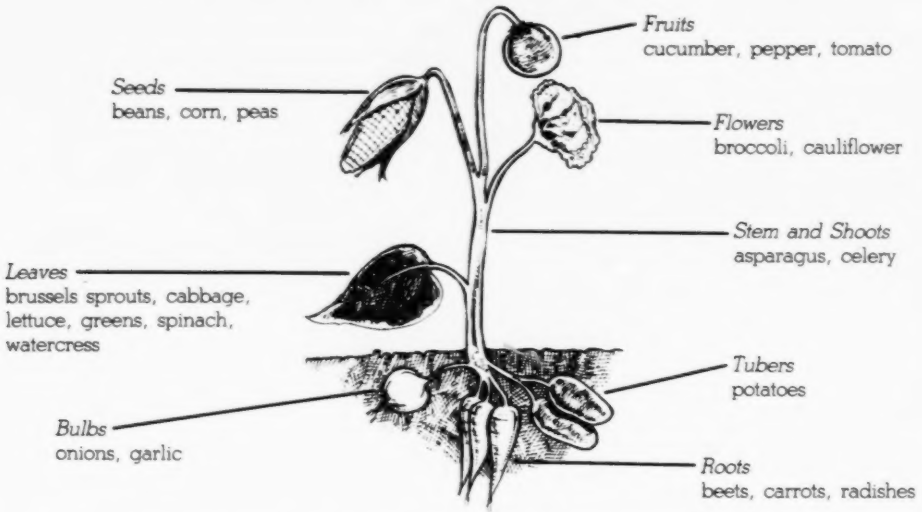
Information Sheet 2
Types of Vegetables

A vegetable is a plant or part of a plant that may be eaten raw or cooked. Usually vegetables are served as part of the main course of a meal and in salads.

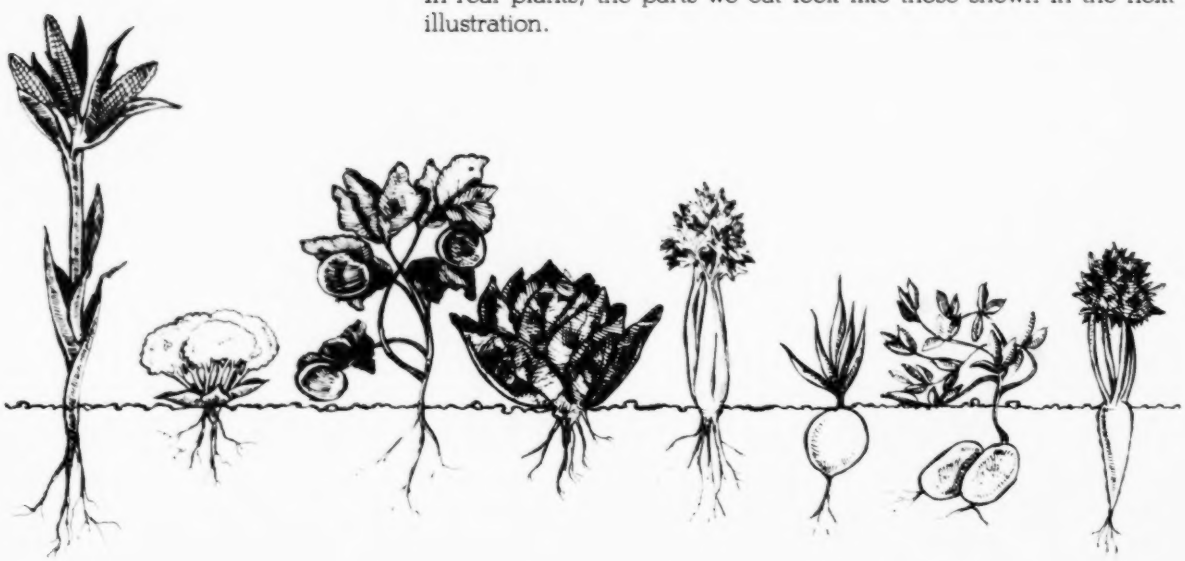
There are three ways to classify vegetables: by the part of the plant they come from; by their color; and by their market form.

Vegetables as Plant Parts

The following illustration of an *imaginary* plant shows eight parts of a plant and the kinds of vegetables that come from each part.



In *real* plants, the parts we eat look like those shown in the next illustration.



From ***corn*** *we eat the* ***seeds***.

From ***cauliflower*** *we eat the* ***flower***.

From ***peppers*** *we eat the* ***fruit***.

From ***cabbage*** *we eat the* ***leaves***.

From ***celery*** *we eat the* ***stem***.

From ***onions*** *we eat the* ***bulbs***.

From ***potatoes*** *we eat the* ***tubers***.

From ***carrots*** *we eat the* ***roots***.

Information Sheet 2 (continued)
Types of Vegetables

Color of Vegetables

The color of vegetables is a clue to correct cooking times and methods. Most vegetables are green, yellow, white, or red.

Green Vegetables

Green vegetables include broccoli, asparagus, peas, green peppers, brussels sprouts, string beans, spinach, cabbage, and lettuce, among others.

All green vegetables get their color from a pigment called chlorophyll, which is easily destroyed by the heat used in cooking. Overcooked green vegetables lose their bright green color and become a dull brownish green. So it is important that green vegetables be cooked properly. This means cooking them over low heat until they are just becoming tender and are still an attractive green. Do not use baking soda, however, to make the green brighter. Baking soda destroys vitamins and gives the vegetable an artificial look. Most green vegetables are very acidic; the acid in them will destroy their green color unless you allow it to escape by cooking the vegetables in an *uncovered pot*.

Yellow Vegetables

Yellow vegetables include carrots, sweet potatoes, pumpkin, corn, squash, and rutabagas, among others.

Heat does not destroy the pigment carotene, a source of vitamin A and the substance that gives many yellow vegetables their color. But when a yellow vegetable is overcooked, the carotene escapes into the cooking water, and the vegetable turns a dull, unappetizing color. Most yellow vegetables should be cooked in very little water, and the pot should be *covered with a lid* to preserve the vegetables' nutrients.

White Vegetables

Some examples of white vegetables are cauliflower, potatoes, white cabbage, white onions, turnips, mushrooms, and parsnips.

The pigments that give white vegetables their color are called flavones. From the action of the flavones in the water, white vegetables turn yellow or dark gray if overcooked. To prevent overcooking, cook the vegetables in just enough water to cover them. Add a small amount of vinegar or lemon juice to the cooking water; this addition will improve both the appearance and the taste of white vegetables. Leave the cooking pot *uncovered*, and cook the vegetables until they are just becoming tender.

Information Sheet 2 (continued)
Types of Vegetables

Red Vegetables

Vinegar or lemon juice added to the cooking water will also improve the flavor and color of some red vegetables, such as red cabbage and beets. Overcooking can cause the color of these vegetables to change from red to purple or purplish green. When cooked, tomatoes keep their red color. Other red vegetables are red peppers, radishes, and pimientos.

Market Forms

Vegetables are sold in four market forms in grocery stores and wholesale houses: fresh, canned, frozen, and dried.

Fresh Vegetables

When selecting fresh vegetables, look for ones that are firm and have a bright color. The vegetables should show no signs of decay, such as soft spots and discoloration. They should be free of bruises and blemishes.

Fresh vegetables should be thoroughly washed before cooking to remove dirt, harmful bacteria, and pesticides. All blemishes should be removed before the vegetables are cut or shaped.

The general method for cooking fresh vegetables is to bring water to a boil separately and then to add the vegetables to the boiling water. Use only enough water to cover the vegetables. Bring the water to a boil again and then reduce the heat and allow vegetables to simmer. When the vegetables are just becoming tender, remove them from the heat and pour off the liquid. This way of cooking helps preserve the nutrients in the vegetables. If the cooked vegetables are not going to be used right away, place them in a container and allow them to cool.

When the vegetables are needed for service, they can be reheated and seasoned. Generally, seasoning consists of salt, pepper, and/or sugar. For extra flavor, you may add other spices and herbs (see LAP 5.11, *Using Herbs and Spices/Preparing Sauces and Gravies*).

For information on how to prepare fresh vegetable salads, see LAP 5.5a, *Preparing Salads*.

Canned Vegetables

When buying canned vegetables, make sure that the cans have no dents, bulges, leaks, or rust spots. The labels on the cans should describe completely the contents and their nutritional value.

Canned vegetables are already fully cooked. They need only be heated through and seasoned before serving. They should be heated in their own liquid, which contains valuable nutrients. Always prepare them in small quantities.

Information Sheet 2 (continued)
Types of Vegetables

Frozen Vegetables

Frozen vegetables should be bought in packages that are frozen solid to preserve freshness. If freezer space is available, they should be bought in quantity.

Because of their convenience, frozen vegetables are popular in food-service establishments. They can be prepared quickly, with little labor cost. When prepared properly, they look and taste almost as good as fresh vegetables.

Frozen vegetables generally are prepared in the same manner as fresh vegetables. Remember, though, that since frozen vegetables have already been partially cooked, cooking time is less than for fresh foods. Before cooking, thaw at refrigerator temperatures (34°-39° F); this will result in more uniform cooking.

Dried Vegetables

Dried vegetables often come from the seed pod of the plant; examples are lentils, beans, and peas. Dried vegetables also include cereals, such as rice, barley, and wheat.

Another kind of dried vegetable is the dehydrated variety, from which the water content has been removed. Dehydrated vegetables can be bought in the form of flakes and granules. An example of a dehydrated vegetable is potato flakes.

Dried beans and peas are used more often in soups than in vegetable cookery. If they are to be prepared as vegetable dishes, they should be soaked overnight to replace the water lost in drying. For making soup with split peas or lentils, soaking is not necessary.

When selecting dried vegetables, be sure that they have kept their color; loss of color means loss of freshness. Also, they should all be of a uniform size for efficient cooking, and they should have no defects, such as cracked skins or insect holes.

Activity 2A
Types of Vegetables

Directions

On a separate sheet of paper, write out each statement that follows with the response that **best** completes it.

DO NOT WRITE IN THIS LAP

1. The color of a vegetable is a clue to the correct _____.
   —cooking method and time
   —menu preparation and service
   —service and decoration
   —storage and cooking

2. Beets, carrots, and radishes are examples of _____.
   —shoots
   —tubers
   —roots
   —bulbs

3. Green vegetables should be cooked over _____ heat.
   —low
   —high
   —dry
   —medium

4. When selecting fresh vegetables, look for ones that are _____.
   —firm
   —soft
   —young
   —firm, soft, and young

5. When selecting fresh vegetables, avoid those with _____.
   —soft spots
   —blemishes
   —discoloration
   —soft spots, blemishes, and discoloration

6. Because of their convenience, _____ vegetables are popular in food-service establishments.
   —precut
   —prewashed
   —fresh
   —frozen

7. To cook fresh vegetables, you first _____.
   —boil them in water
   —simmer them
   —bring water to a boil and then add the vegetables
   —season them and then boil them

8. Always prepare canned vegetables _____ _____.
   —in small quantities
   —the way you would frozen vegetables
   —the way you would fresh vegetables
   —in large quantities

Activity 2A (continued)
Types of Vegetables

9. Dried beans and peas need to be _____ before they are cooked.
   —dehydrated
   —seasoned
   —dried overnight
   —soaked overnight

10. Overcooking can destroy the color of _____.
   —yellow vegetables
   —red vegetables
   —yellow, white, red, and green vegetables
   —green vegetables

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

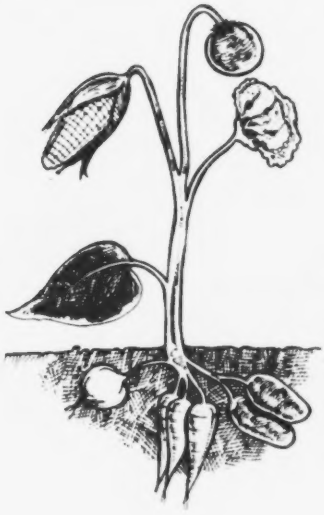
Activity 2B
Vegetables as Plant Parts

Directions

On a separate sheet of paper, complete each statement below with the correct word, chosen from the list of plant parts that follows. Write out each statement.

1. Broccoli is a _____.
2. A tomato is a _____.
3. Celery is a _____.
4. A carrot is a _____.
5. A sweet potato is a _____.
6. A cabbage is a bunch of _____.
7. An onion is a _____.
8. Red kidney beans are _____.
9. A cucumber is a _____.
10. Lettuce is a bunch of _____.
11. An Irish potato is a _____.
12. Garlic is a _____.
13. Cauliflower is a _____.
14. An ear of corn is a group of _____.
15. A radish is a _____.
16. Spinach is a bunch of _____.

DO NOT WRITE IN THIS LAP



Plant Parts

fruit	seeds
flower	leaves
stem	tuber
bulb	root

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

Activity 2C
Color of Vegetables

Directions

On a separate sheet of paper, complete each statement below with the correct phrase, chosen from the list of cooking methods that follows. Write out each statement.

1. String beans are green and _____.
2. Carrots are yellow and _____.
3. Corn is yellow and _____.
4. Cabbage is green and _____.
5. Irish potatoes are white and _____.
6. Squash is yellow and _____.
7. Spinach is green and _____.
8. White onions _____.
9. Peas are green and _____.
10. Sweet potatoes are yellow and _____.
11. Broccoli is green and _____.
12. Turnips are white and _____.

Cooking Methods

should be cooked with very little water in a pot covered with a lid; never overcook

should be cooked in just enough water to cover, without a lid, until tender

should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

Activity 2D
Market Forms

Directions

On a separate sheet of paper, write the names of the four market forms of vegetables, as listed below. Beside each market form, write out the correct cooking method, chosen from the list that follows.

Market Forms

1. **Fresh:** _____
2. **Canned:** _____
3. **Frozen:** _____
4. **Dried:** _____

Cooking Methods

Should be washed carefully. All blemishes must be removed. These vegetables should be placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer. The vegetables should be cooked until just tender and then removed from the heat and allowed to cool.

Need only to be heated in their own liquid and seasoned before serving.

Need to soak overnight to replace water.

Should be thawed at refrigerator temperature and placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer and the vegetables cooked until just tender.

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

Information Sheet 3
Storing Vegetables

After selecting and buying vegetables in one or more of their market forms—fresh, canned, frozen, or dried—you will then need to store them. The way vegetables are stored affects their nutritional value and quality. If vegetables are not stored properly, they will spoil and be unfit to eat.

Proper storage means (1) keeping vegetables as dry or moist as needed to preserve their nutrients; (2) keeping out dirt, dust, and insects; (3) protecting vegetables from too much heat, light, and moisture; and (4) keeping vegetables at the right temperature and humidity level to prevent harmful bacteria and molds from growing.

Here are some tips on vegetable storage:

Storing Fresh Vegetables

Most fresh vegetables are highly perishable and need refrigeration to preserve their crispness, appearance, and flavor. Exceptions are potatoes and onions, which should be stored in open containers in a cool, dark, dry, well-ventilated place.

Refrigerate all cut or peeled vegetables, because exposure to the air causes them to spoil rapidly. To seal them from the air and prevent loss of color, store them in a plastic bag or airtight container, or cover them with water, or treat them with chemical oxidizing agents.

Place fresh vegetables in tightly covered containers with air vents when storing them in a refrigerator. The ventilation allows the cold, moist air to circulate properly around the vegetables and keep them fresh. Or cover them with plastic wrap or aluminum foil, which prevents vegetable odors from being absorbed by other foods.

Do not refrigerate vegetables for long periods of time. Most vegetables will stay fresh for no longer than about 10 days and should be used well before that amount of time has passed.

Storing Canned Vegetables

Store cans of vegetables at room temperature (65°-75° F) in a dry place where they will not be exposed to sunlight. Most canned foods will keep their flavor for about a year. Place the cans on shelves after checking for rust spots, swelling, dents, holes, and other defects. If a can is punctured, its contents are likely to be spoiled. Cans with other defects should be opened and checked for spoilage. Use the vegetables immediately if they're not spoiled, or store them in the refrigerator. As a general rule, *If in doubt, throw it out*! Never take a chance.

Storing Frozen Vegetables

All frozen vegetables should be stored in freezers at temperatures of 0° F or lower. Higher temperatures may reduce the storage life and the quality of the product. *Never* refreeze vegetables that have been thawed. For best results, thaw frozen vegetables at refrigerator temperatures (34°-39° F).

Information Sheet 3 (continued)
Storing Vegetables

Storing Dried Vegetables

Store dried vegetables in a dry place at room temperature, away from sunlight. Place the vegetables in bags, cans, or other containers, and store them on shelves. They will keep their quality for months.

General Tips for Storing Vegetables

When storing either canned or dried vegetables, be sure to rotate the stock—that is, move the old cans and packages forward and move the new ones to the rear so that the old will be used first. It helps to write the purchase date on the containers to keep them in order.

Always consider the temperature and humidity (percentage of moisture in the air) when storing vegetables. The chart below gives storage temperatures and humidity levels for some commonly used vegetables.

Best Temperatures and Humidity for Storage of Selected Vegetables

Temperature	**0° F (−18° C)**	**32°-40° F (0°-8° C)**	**40°-50° F (5°-8° C)**	**45°-50° F (8°-10° C)**	**Room Temperature**
Humidity		**85-95%**	**85-95%**	**75%**	
Type of Vegetable	All frozen vegetables	Turnips Summer squash Radishes Parsley Green onions Lettuce Greens Corn Celery Carrots Cabbage Beets Asparagus	Snap beans Green peppers Tomatoes	Cucumbers Eggplant Okra Potatoes Winter squash Sweet potatoes Onions	Garlic Dried vegetables Dehydrated vegetables Canned vegetables

Activity 3
Storing Vegetables

Directions

On a separate sheet of paper, write out each statement that follows with the response that **best** completes it.

DO NOT WRITE IN THIS LAP

1. Proper storage of vegetables means keeping them as _____ as needed to preserve their nutrients.
   —dry
   —moist
   —clean
   —dry or moist, and clean

2. All cut or peeled vegetables should be _____.
   —soaked overnight
   —refrigerated
   —frozen
   —kept in an open container

3. Most fresh vegetables should be _____.
   —soaked overnight
   —refrigerated
   —frozen
   —kept in an open container

4. Cans with defects should be _____.
   —used immediately
   —exposed to sunlight
   —refrigerated
   —checked for spoilage

5. Never _____ frozen vegetables that have been thawed.
   —refreeze
   —cook
   —eat
   —store

6. Always consider the _____ and _____ when storing vegetables.
   —temperature, air quality
   —temperature, humidity
   —humidity, moisture level
   —moisture level, air quality

7. Store dried vegetables _____.
   —in the refrigerator at 40°-50° F
   —on shelves at room temperature
   —in water at 40°-50° F
   —in sunlight at room temperature

8. All dried vegetables should be stored at _____.
   —room temperature
   —45°-50° F
   —32°-40° F
   —0° F

Check your answers in the back of this LAP. If you missed any, review Information Sheet 3.

Information Sheet 4
Preparing Vegetables

Many vegetables are appetizing and nutritious when served raw; examples include parsley, celery, cucumbers, radishes, green and red peppers, turnips, carrots, cabbage, and cauliflower. But cooking can improve vegetable flavor by making it milder and mellower. Cooking can also make some vegetables easier to chew and digest. Unless correct procedures are followed, however, cooking can destroy nutrients and cause unattractive color changes in vegetables.

To make sure that vegetables have good eating qualities and are an attractive part of the meal, follow these 9 general rules for vegetable cookery.

Rules for Vegetable Cookery

1. Cut cleaned, fresh vegetables into uniform pieces so that they will cook evenly.
2. Use only enough water to cover the vegetables.
3. Do not boil vegetables; boiling results in overcooking.
4. Cook only until the vegetables begin to be tender.
5. Cook vegetables as close to serving time as possible.
6. Do not leave vegetables in hot water after cooking; they will continue to cook, become too soft, and lose their color.
7. After cooking, cool the vegetables with ice or cold running water if they are not to be immediately used.
8. Season the vegetables just before serving.
9. Save the cooking liquid, which contains valuable nutrients. Use the liquid when reheating the vegetables and when making stocks and sauces. (See LAPs 5.10a, *Preparing Stocks*; 5.10b, *Preparing Soups*; and 5.11, *Using Herbs and Spices/Preparing Sauces and Gravies*, for information on using cooking liquids to prepare stocks, soups, and gravies.)

Preparing Vegetables for Cooking

In most commercial kitchens, vegetables need some preparation before the cook begins to work with them.

All fresh vegetables need to be *washed* before they are cooked, to get rid of dirt and pesticides. Use a vegetable brush with stiff bristles to do a thorough job.

Vegetables with leaves, stems, roots, or other nonedible parts need to be *trimmed* with a knife before cooking. The point of a paring knife (a short, pointed-blade knife about 2½ to 3½ inches long) may be used to remove blemishes and "eyes."

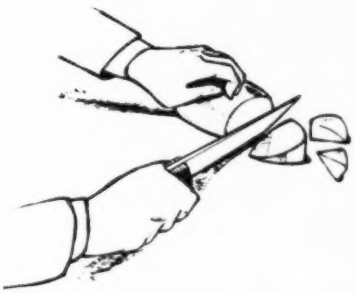
Information Sheet 4 (continued)
Preparing Vegetables

Some fresh vegetables, such as potatoes and carrots, may be *peeled* before they are cooked, using a paring knife or a vegetable peeler.

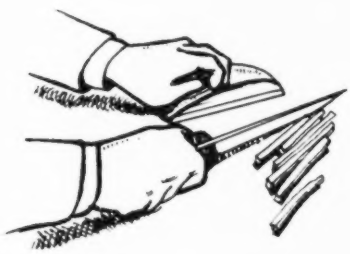
Sometimes vegetables are *cut into pieces* before cooking. There are several methods of cutting, but no matter which method is used, it is important that the cut vegetable pieces be all the same size, so that they all get done at the same time. The illustrations below show five of the most commonly used cutting methods: *slice, cut, julienne, dice,* and *mince*. A French knife usually is used in these methods.

slice: to cut into thin, broad pieces

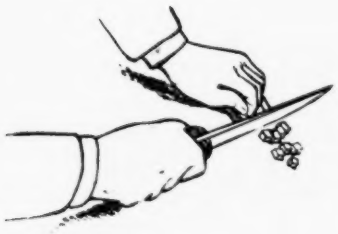
cut: to divide food into small, irregularly shaped pieces



julienne: to cut into long, thin strips



Information Sheet 4 (continued)
Preparing Vegetables



dice: to cut into small squares

mince: to cut into very small pieces

Cooking Methods

The four most commonly used methods for preparing vegetables are *cooking in water, steaming, baking,* and *frying*. Vegetables should be cooked in batches so that they always look fresh on the line.

Cooking in Water

To cook vegetables in water, first boil the water and then add the vegetables. Bring the water to a second boil, and then immediately reduce the heat to a simmer. Use only enough water to cover the vegetables, and cook only for a short time. Too much water or overcooking causes loss of nutrients and destroys flavor and texture.

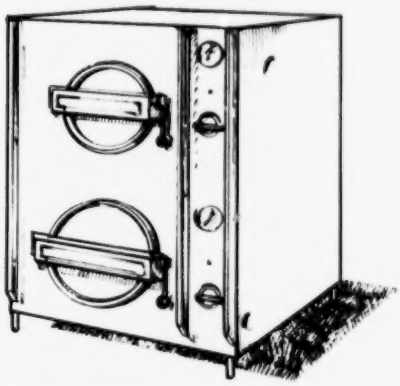
Steaming

In commercial kitchens, steaming (cooking in steam) is done in pressure cookers or, less often, in steam-jacketed kettles. **Note:** These pieces of equipment require special training to operate. Ask your instructor to demonstrate.

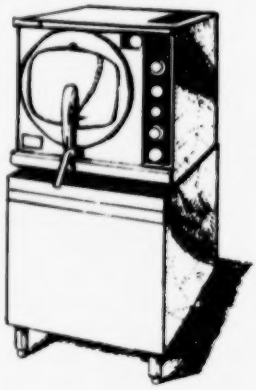
Pressure cookers are airtight utensils used to quick-cook foods. They operate on steam pressure, which varies from 5 to 15 pounds, depending on the size of the pressure cooker. The temperature in a double-chamber pressure cooker can reach as high as 250° F. This is much higher than the boiling point of 212° F, which is the highest temperature that can be reached when vegetables are cooked in a regular pot. Vegetables can be steamed in pressure cookers about 10 to 20 percent faster than they can be cooked in water. This is because the steam condenses (turns to water) on the food, releasing tremendous amounts of energy (heat), which cooks the food. When vegetables are cooked in water, the steam evaporates (disappears) and is lost to cooking. Another advantage of steam-pressure cooking is that more vitamins, minerals, and flavor are preserved, because less water is added to the vegetables.

Information Sheet 4 (continued)
Preparing Vegetables

When cooked in a *steam-jacketed kettle* (see the illustration below), vegetables do not come into contact with the steam, as they do in pressure cookers; instead, the steam flows around the jacket of the kettle, spreading the heat evenly around the sides and bottom. The same amount of water is used as in the boiling method, and the temperature reached is the same—212° F. The difference is that the boiling point is reached much faster in a steam-jacketed kettle.



Double-compartment, high-pressure steamer or pressure cooker

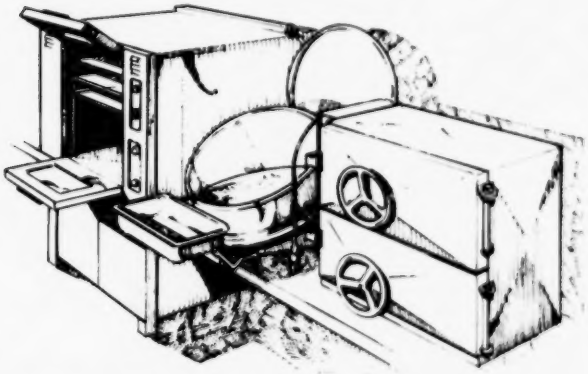


Single-unit, high-pressure steamer

Baking

Vegetables are baked in uncovered pans in an oven using dry heat; no water is necessary. Vegetables to be baked should have a high water content to prevent drying out. Examples of vegetables suitable for baking are potatoes and sweet potatoes, squash, onions, mushrooms, beans, and eggplant.

There are several ways in which vegetables may be baked: *in their own skins* (potatoes); *stuffed with a filling* (eggplant, onions, squash, mushrooms, artichokes); *without flesh or skin* (eggplant, sweet peppers, zucchini); or *au gratin*—topped with a crisp, brown crust (vegetables with either a high or a low water content may be prepared *au gratin*).



Three ways to prepare vegetables: (left to right) *baking oven, steam-jacketed kettle,* and *double-chamber, steam (low) pressure cooker*

Information Sheet 4 (continued)
Preparing Vegetables

Frying

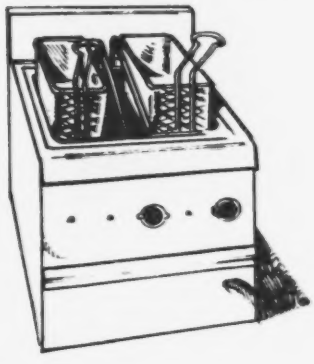
Vegetables for frying should be cut into small pieces of uniform size so that they will cook to crispness quickly. Vegetables with a high water content must be coated before frying to keep in their moisture and protect their flesh from heat. To decrease frying time, precook thick vegetables such as carrots and cauliflower in water until almost done before coating them with a batter and frying.

In *sautéing* or *panfrying*, only salt is necessary for flavoring, though other flavorings may be used. Turn coated vegetables only once; keep uncoated vegetables moving briskly in the oil or fat so that they do not overcook or cook unevenly. In some restaurants, the griddle is used for sautéing.

Sauté pan

When *deep-fat frying*, observe these rules regarding the fat:
- Fill the pan no more than halfway with fat.
- Heat the fat to 375° F.
- Do not allow the fat to turn brown or smoke.
- Strain the fat after use to remove food particles that burn when the fat is reheated.
- Store the fat in a cool, dark place.

The vegetable most often deep-fat fried is potatoes. Potatoes may be purchased in several forms for deep-fat frying; frozen is the most popular form. The most common cuts are called "crinkle" and "shoestring." If raw potatoes are used, they need to be washed, peeled, and cut into julienne strips. Fry potatoes at 350°-375° F until golden brown; usually it takes no more than two or three minutes. Drain and serve the potatoes immediately. Let customers salt their own fries—crispness is lost after salt is added.



Regular deep-fat fryer

Activity 4A
Preparing Vegetables

Directions

On a separate sheet of paper, write out each statement that follows with the response that **best** completes it.

DO NOT WRITE IN THIS LAP

1. Cook vegetables until they are _____.
   —soft
   —crisp
   —just tender
   —appetizing

2. Use the cooking liquid when you _____ vegetables.
   —flavor
   —reheat
   —store
   —flavor, reheat, and store

3. Cut vegetables _____ for even cooking.
   —into small pieces
   —uniformly
   —into various shapes and sizes
   —into large pieces

4. All fresh vegetables should be _____ before they are cooked.
   —washed
   —dried
   —stored
   —cut

5. Vegetables with nonedible parts need to be _____ before cooking.
   —minced
   —trimmed
   —diced
   —washed

6. To cook vegetables in water, first _____ and then _____.
   —boil the water, add the seasonings
   —peel the vegetables, add the seasonings
   —boil the vegetables, add the seasonings
   —boil the water, add the vegetables

7. If vegetables remain in hot water after cooking, they will _____.
   —continue to cook
   —become too soft
   —lose their color
   —continue to cook, become too soft, and lose their color

8. An advantage of steam-pressure cooking over boiling is that steam-pressure cooking _____.
   —preserves more color and is faster
   —keeps vegetables from overcooking
   —is safer and slower
   —preserves more nutrients and is faster

Activity 4A (continued)
Preparing Vegetables

9. A steam-jacketed kettle provides _____.
   —contact with the steam
   —dry heat
   —moist heat
   —an even distribution of heat

10. Vegetables to be baked should have _____.
   —a high water content
   —good eating qualities
   —resistance to dry heat
   —a high vitamin content

11. Thick vegetables for frying should _____.
   —remain whole
   —be precooked and coated
   —be uncoated
   —stay in the pan longer

12. The fat for deep-fat frying must not _____.
   —be stored after use
   —turn brown or smoke
   —be used with salt
   —be strained after use

Check your answers in the back of this LAP. If you missed any, review Information Sheet 4.

Activity 4B
Cutting Terms

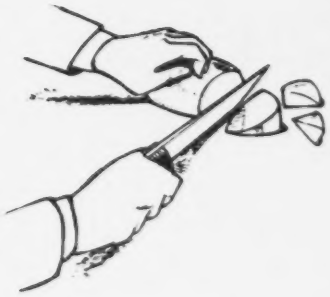
Directions

Look at the five illustrations below. **On a separate sheet of paper**, write the numerals 1 through 5. From the word bank below, select the correct term for each cutting method illustrated, and write it next to the appropriate number.

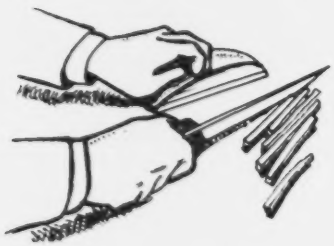
DO NOT WRITE IN THIS LAP

1. _____

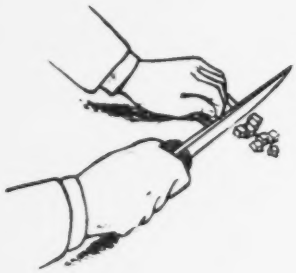
2. _____



3. _____



4. _____



5. _____

Word Bank

mince	julienne
cut	pare
cube	scrape
dice	slice
grate	score

Check your answers in the back of this LAP. If you missed any, review Information Sheet 4.

Activity 4C

Practice Checklist:
Prepare Vegetables—Clean, Trim, and Cut

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✓	
	1. Wash your hands.
	2. Assemble vegetables and utensils (peeler, cutting board, slicer, brush, shredder, etc.).
	3. Trim off the inedible parts of the vegetables.
	4. Wash the vegetables. Use a brush, if necessary.
	5. Cut the vegetables as directed by your instructor.
	6. Store the cut vegetables as directed in Information Sheet 3.
	7. Clean the work area and equipment.

Standards for Evaluation

✓	
	1. Are the vegetables clean? Have all blemishes been removed?
	2. Are the vegetables cut uniformly? Are they cut correctly? Have they kept their natural color?

Activity 4C (continued)
Practice Checklist:
Prepare Vegetables—Cook in Water

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✔	
	1. Get a recipe from your instructor. Read the recipe, and make any necessary adjustments, conversions, or substitutions.
	2. Wash your hands.
	3. Organize your work area by assembling all ingredients and utensils near the stove.
	4. Use one of the following methods.
	a. **For fresh vegetables:** (1) Bring water to a boil and add seasonings.
	(2) Add prepared (washed, trimmed, and cut) vegetables to the boiling water.
	(3) Bring water to a boil again.
	(4) Reduce the heat to a simmer.
	(5) Cook until the vegetables are just becoming tender.
	b. **For frozen vegetables:** (1) Thaw the vegetables at refrigerator temperature.
	(2) Bring water to a boil; add seasonings if needed.
	(3) Place the vegetables directly in boiling water.
	(4) Bring water to a boil again.
	(5) Reduce the heat, and cook for the length of time indicated on the package.
	c. **For canned vegetables:** (1) Drain the liquid from the vegetables and bring it to a boil.
	(2) Place the vegetables into the boiling liquid.
	(3) Reduce the heat to a simmer.
	(4) Cook until the vegetables are heated through.

Standards for Evaluation

✔	
	1. Have the vegetables kept their natural shape and color?
	2. Are the vegetables easy to cut, but not too soft?

Activity 4C (continued)
Practice Checklist:
Prepare Vegetables—Steam

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✓	
	1. Get a recipe from your instructor. Read the recipe, and make any necessary adjustments, conversions, or substitutions.
	2. Wash your hands.
	3. Organize your work area by assembling all ingredients and utensils near the pressure cooker or steam kettle.
	4. Measure the water and heat it to a boil. Add seasonings.
	5. Place the prepared vegetables in the pressure chamber or steam kettle.
	6. Cook for the required time.
	7. Before opening the steamer, make sure the pressure gauge has gone down to zero. **Caution:** Improper use of this equipment can be hazardous. Follow proper safety precautions.
	8. Remove the vegetables. Season, garnish, and serve; or store the vegetables in the refrigerator for later use.
	9. Clean the work area and equipment.

Standards for Evaluation

✓	
	1. Have the vegetables kept their natural shape and color?
	2. Are the vegetables easy to cut, but not too soft?

Activity 4C (continued)
Practice Checklist:
Prepare Vegetables—Sauté or Panfry

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✔	
	1. Get a recipe from your instructor. Read the recipe, and make any necessary adjustments, conversions, or substitutions.
	2. Wash your hands.
	3. Organize your work area by assembling all ingredients and utensils near the griddle or stove.
	4. If required by the recipe, dredge or dip the prepared vegetables in a coating.
	5. Add the seasonings and other ingredients.
	6. Heat a small amount of fat or oil in a skillet or on the griddle.
	7. Place the vegetables in the skillet or on the griddle.
	8. Cook quickly at medium-high temperature.
	9. Remove the vegetables when they are lightly browned. Drain off the fat.
	10. Clean the work area and equipment.

Standards for Evaluation

✔	
	1. Have the vegetables kept their natural shape?
	2. Are they free of excess grease?
	3. Are they crisp and evenly browned?
	4. Are they easy to cut, but not too soft?

Activity 4C (continued)
Practice Checklist:
Prepare Vegetables—Deep-Fat Fry

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✔	
	1. Get a recipe from your instructor. Read the recipe, and make any necessary adjustments, conversions, or substitutions.
	2. Wash your hands.
	3. Organize your work area by assembling all ingredients and utensils near the deep-fat fryer.
	4. Mix and season the batter according to the recipe. Do a taste test.
	5. Fill the deep-fat fryer to the correct level with fat or oil and heat to the desired temperature. **Caution:** Be careful not to overheat the fat or oil! It might splatter and burn or cause a fire.
	6. Heat the fry basket in hot fat.
	7. Dip the vegetables in the batter. Drain well.
	8. Place the vegetables in the fry basket. Lower the basket into the hot fat.
	9. Fry until the vegetables are lightly browned and tender.
	10. Drain in the fry basket or on paper.
	11. Season the vegetables. Do a taste test.
	12. Arrange the vegetables on a serving utensil or warmer.
	13. Cool and pour off the fat.
	14. Clean the work area and equipment.

Standards for Evaluation

✔	
	1. Are the vegetables crisp and evenly browned?
	2. Are they not greasy to the touch or taste?

Activity 4C (continued)
Practice Checklist:
Prepare Vegetables—Bake

Directions

Write down the steps and standards for evaluation for this task **on a separate sheet of paper**. Then, ask your instructor for the tools, equipment, and ingredients you will need to practice this skill. FOLLOW THE STEPS CAREFULLY. You may want to look at the information in the LAP to help you perform the task.

Steps

✔	
	1. Get a recipe from your instructor. Read the recipe, and make any necessary adjustments, conversions, or substitutions.
	2. Wash your hands.
	3. Organize your work area by assembling all ingredients and utensils near the oven.
	4. Preheat the oven to the temperature specified in the recipe.
	5. Brush the prepared vegetables with oil or butter and add seasonings, according to the recipe.
	6. Place the vegetables in a shallow pan on the middle oven rack. Bake as directed.
	7. Remove the vegetables from the oven and do a taste test.
	8. Clean the work area and equipment.

Standards for Evaluation

✔	
	1. Are the vegetables cooked through?
	2. Are they pleasantly flavored?
	3. Have they kept their shape and color?

Answer Keys for Written Activities

Activity 1:
Matching Vocabulary Words

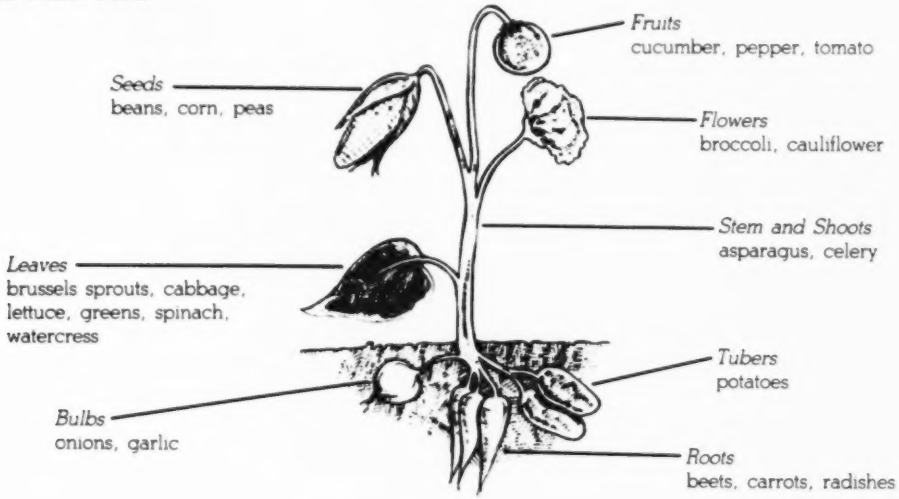
1. **nutrient**—a substance or ingredient that provides nourishment, or food value
2. **perishable**—liable to decay (spoil or rot)
3. **ventilate**—to expose to moving air
4. **uniform**—having the same form, not varying; said of sizes, patterns, colors, etc.
5. **pigment**—a coloring substance in animals and plants
6. **dehydrated**—the water content has been removed

Activity 2A:
Types of Vegetables

1. The color of a vegetable is a clue to the correct **cooking method and time.**
2. Beets, carrots, and radishes are examples of **roots.**
3. Green vegetables should be cooked over **low** heat.
4. When selecting fresh vegetables, look for ones that are **firm.**
5. When selecting fresh vegetables, avoid those with **soft spots, blemishes, and discoloration.**
6. Because of their convenience, **frozen** vegetables are popular in food-service establishments.
7. To cook fresh vegetables, you first **bring water to a boil,** and then **add the vegetables.**
8. Always prepare canned vegetables **in small quantities.**
9. Dried beans and peas need to be **soaked overnight** before they are cooked.
10. Overcooking can destroy the color of **yellow, white, red, and green vegetables.**

Answer Keys for Written Activities (continued)

Activity 2B:
Vegetables as Plant Parts



1. Broccoli is a **flower**.
2. A tomato is a **fruit**.
3. Celery is a **stem**.
4. A carrot is a **root**.
5. A sweet potato is a **tuber**.
6. A cabbage is a bunch of **leaves**.
7. An onion is a **bulb**.
8. Red kidney beans are **seeds**.
9. A cucumber is a **fruit**.
10. Lettuce is a bunch of **leaves**.
11. An Irish potato is a **tuber**.
12. Garlic is a **bulb**.
13. Cauliflower is a **flower**.
14. An ear of corn is a group of **seeds**.
15. A radish is a **root**.
16. Spinach is a bunch of **leaves**.

Answer Keys for Written Activities (continued)

Activity 2C:
Color of Vegetables

1. String beans are green and **should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda.**
2. Carrots are yellow and **should be cooked with very little water in a pot covered with a lid; never overcook.**
3. Corn is yellow and **should be cooked with very little water in a pot covered with a lid; never overcook.**
4. Cabbage is green and **should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda.**
5. Irish potatoes are white and **should be cooked in just enough water to cover, without a lid, until tender.**
6. Squash is yellow and **should be cooked with very little water in a pot covered with a lid; never overcook.**
7. Spinach is green and **should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda.**
8. White onions **should be cooked in just enough water to cover, without a lid, until tender.**
9. Peas are green and **should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda.**
10. Sweet potatoes are yellow and **should be cooked with very little water in a pot covered with a lid; never overcook.**
11. Broccoli is green and **should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda.**
12. Turnips are white and **should be cooked in just enough water to cover, without a lid, until tender.**

Activity 2D:
Market Forms

1. Fresh: **Should be washed carefully. All blemishes must be removed. These vegetables should be placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer. The vegetables should be cooked until just tender and then removed from the heat and allowed to cool.**
2. Canned: **Need only to be heated in their own liquid and seasoned before serving.**
3. Frozen: **Should be thawed at refrigerator temperature and placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer and the vegetables cooked until just tender.**
4. Dried: **Need to soak overnight to replace water.**

Answer Keys for Written Activities (continued)

Activity 3:
Storing Vegetables

1. Proper storage of vegetables means keeping them as **dry or moist, and clean** as needed to preserve their nutrients.
2. All cut or peeled vegetables should be **refrigerated**.
3. Most fresh vegetables should be **refrigerated**.
4. Cans with defects should be **checked for spoilage**.
5. Never **refreeze** frozen vegetables that have been thawed.
6. Always consider the **temperature** and **humidity** when storing vegetables.
7. Store dried vegetables **on shelves at room temperature**.
8. All dried vegetables should be stored at **room temperature**.

Activity 4A:
Preparing Vegetables

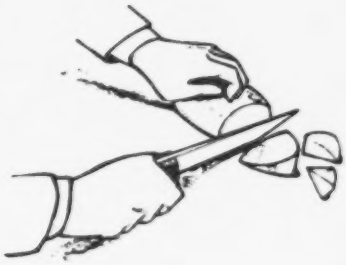
1. Cook vegetables until they are **just tender**.
2. Use the cooking liquid when you **reheat** the vegetables.
3. Cut vegetables **uniformly** for even cooking.
4. All fresh vegetables should be **washed** before they are cooked.
5. Vegetables with nonedible parts need to be trimmed before cooking.
6. To cook vegetables in water, first **boil the water**, and then **add the vegetables**.
7. If vegetables remain in hot water after cooking, they will **continue to cook, become too soft, and lose their color**.
8. An advantage of steam-pressure cooking over boiling is that steam-pressure cooking **preserves more nutrients and is faster**.
9. A steam-jacketed kettle provides **an even distribution of heat**.
10. Vegetables to be baked should have a **high water content**.
11. Thick vegetables for frying should **be precooked and coated**.
12. The fat for deep-fat frying must not **turn brown or smoke**.

Answer Keys for Written Activities (continued)

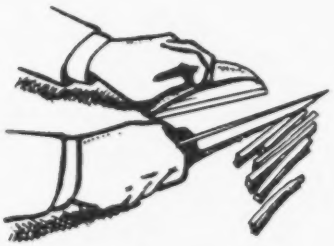
Activity 4B:
Cutting Terms

1. **mince**

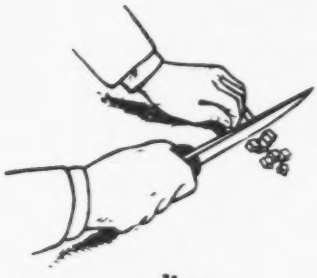
2. **slice**



3. **cut**



4. **julienne**



5. **dice**

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Department of Education
Ralph D. Turlington, Commissioner of Education
Tallahassee, Florida
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Division of Vocational, Adult, and Community Education

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IE 348 BK 86

INSTRUCTOR'S GUIDE
LAP
5.14

Vegetables

Basic Food Preparation

Sponsored and published by:
Florida Department of Education
Ralph D. Turlington, Commissioner of Education

Produced by:
The Center for Instructional Development and Services
(Formerly The Center for Studies in Vocational Education)
Florida State University

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January 1986

Acknowledgments

The Division of Vocational, Adult, and Community Education, Florida Department of Education wishes to express its gratitude to the agencies listed, which have granted permission for Florida to adapt the following materials:

Quantity Foods, developed by the 916 Vocational-Technical Center, White Bear Lake, Minnesota.

Food Management, Production, and Services: Competency-Based Curriculum, developed for the Tennessee State Department of Education, Division of Vocational Education, Nashville, Tennessee.

Career Related Instruction Series: *Baking and Pastry; Food Preparation; Food Service*, developed at the Capital Area Career Center, Mason, Michigan.

Also used were:

Employability Skills Series: *Good Work!* and *Food Production and Services: Learning Manager's Guide*, developed by the Florida Division of Vocational, Adult, and Community Education.

Subject matter experts who reviewed materials from around the nation, selected the materials to be adapted, and used their considerable experience and talents to monitor the development process were:

William Jacoby, St. Augustine Technical Center

Richard Petrello, Withlacoochee Area Vocational-Technical Center

William Petsch, Pinellas Vocational-Technical Institute

Nancy Steryous, St. Petersburg Vocational-Technical Institute

Bill White, Northeast Senior High School, St. Petersburg

John Wright, Westside Vocational Skills Center, Jacksonville

Ronald Zabkiewicz, South Technical Education Center, Boynton Beach

Assistance on the project was also given by:

Valeria Mason and Iris Helveston, Regional Program Consultants, Division of Vocational, Adult, and Community Education

The following individuals at The Center for Instructional Development and Services, Florida State University, adapted the materials:

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Contents

Contents of Instructor's Guide 5.14

Instructional Matrix 2

Notes to the Instructor 4

Suggested Instructional Procedures 6

Written Test 9

Answer Key for Written Test 19

Skills Test 21

Contents of LAP 5.14

Introduction 2

Vocabulary 4

Types of Vegetables 6
Vegetables as Plant Parts 6
Color of Vegetables 7
Market Forms 8

Storing Vegetables 15
Storing Fresh Vegetables 15
Storing Canned Vegetables 15
Storing Frozen Vegetables 15
Storing Dried Vegetables 16
General Tips for Storing Vegetables 16

Preparing Vegetables 18
Rules for Vegetable Cookery 18
Preparing Vegetables for Cooking 18
Cooking Methods 20

Answer Keys for Written Activities 32

Instructional Matrix

Directions If you want to use only part of the materials in this LAP, use this matrix to help you select what you need.

Objectives	Instructional Materials	Practice and Feedback	Evaluation
Knowledge Objectives	**Information Sheets**	**Written Activities**	**Written Test Items**
1. Match a list of vocabulary words with their definitions. (At least 5 out of 6 must be correct.)	1: Vocabulary	1: Matching Vocabulary Words	Part I: 1-6
2. Choose the correct words or phrases to complete statements about types of vegetables. (At least 9 out of 10 must be correct.)	2: Types of Vegetables	2A: Types of Vegetables	Part II: 1-10
3. Match a list of vegetables with the part of the plant they come from. (At least 13 out of 16 must be correct.)	2: Types of Vegetables	2B: Vegetables as Plant Parts	Part III: 1-16
4. Match a list of green, yellow, and white vegetables with appropriate cooking methods. (At least 10 out of 12 must be correct.)	2: Types of Vegetables	2C: Color of Vegetables	Part IV: 1-12
5. Identify the major market forms of vegetables and match them with cooking methods. (All 4 must be correct.)	2: Types of Vegetables	2D: Market Forms	Part V: 1-4
6. Choose the correct words or phrases to complete statements about storing vegetables. (At least 7 out of 8 must be correct.)	3: Storing Vegetables	3: Storing Vegetables	Part VI: 1-8
7. Choose the correct words or phrases to complete statements about preparing vegetables. (At least 10 out of 12 must be correct.)	4: Preparing Vegetables	4A: Preparing Vegetables	Part VII: 1-12
8. Match a list of cutting terms with illustrations. (At least 4 out of 5 must be correct.)	4: Preparing Vegetables	4B: Cutting Terms	Part VIII: 1-5

Instructional Matrix (continued)

Objectives	Instructional Materials	Practice and Feedback	Evaluation
Skill Objectives	**Information Sheets**	**Practice Checklists**	**Skills Test Items**
1. Clean, trim, and cut vegetables. The vegetables must be clean, free of blemishes, correctly and uniformly cut, and they must have their natural color.	4: Preparing Vegetables	4C: Prepare Vegetables—Clean, Trim, and Cut	Part I: 1-4
2. Prepare vegetables. The vegetables must keep their shape and color. They must be easy to cut but not too soft. If they are fried, they must be free of excess grease, crisp, and evenly browned.	4: Preparing Vegetables	4C: Prepare Vegetables—All Methods	Part II: 1-5

Notes to the Instructor

General Notes

Before students begin Activity 4C, tell them which cooking method(s) to practice.

OPPS

The materials in LAP 5.14 cover or are related to the following Florida **OPPS** (Occupational Proficiency Performance Standards):

Slice/cut vegetables and fruits.
Boil vegetables.
Steam vegetables.
Fry vegetables.
Sauté vegetables.
Bake vegetables.
Braise vegetables.
Glaze vegetables.

V-TECS

The materials in LAP 5.14 are related to or cover the following areas of the Florida/**V-TECS** (Vocational-Technical Education Consortium of States) *Commercial Cook* catalog:

Duty: Preparing and Cooking Fruits, Vegetables, and Starches

Task: Boil vegetables.
Objective: Given vegetables, recipe, sharp knife, saucepan, fork and/or spoon, boil vegetables. The vegetables must retain original shape, color, and flavor. They must cut easily but not be mushy.

Task: Steam vegetables.
Objective: Given a recipe, vegetables, seasonings, garnish ingredients, vegetable brush, paring knife, steamer or pressure cooker, and serving dish, steam vegetables. The vegetables must retain original shape and color, cut easily, and not be mushy.

Task: Fry vegetables.
Objective: Given a recipe, vegetables, fat or oil, and other necessary ingredients, vegetable brush, paring knife, fork and/or spoon, slotted spoon, deep-fat fryer, serving utensils, and paper towels, fry vegetables. The vegetables must be crisp in texture, evenly browned, and not greasy to the touch or taste.

Task: Sauté vegetables.
Objective: Given a recipe, vegetables, fat or oil, seasonings, and other necessary ingredients, a vegetable brush, paring knife, grater, and skillet, sauté vegetables. The vegetables must be easy to cut, not mushy, must retain original shape, may be clear or light brown in color, without retaining excess grease.

Task: Bake fruits/vegetables.
Objective: Given fresh fruits/vegetables, recipe, butter, seasonings and other ingredients, vegetable brush, paring knife, corer, cover and baking pan, bake fruits/vegetables. The fruits/vegetables must be thoroughly cooked, pleasantly flavored, and retain its natural shape and color.

Notes to the Instructor (continued)

Task: Clean/prepare fresh fruits/vegetables.
Objective: Given fruits/vegetables, paring knife, colander, cutting board, vegetable slicer, vegetable brush, and shredder, clean/prepare raw fruits/vegetables. The fruits/vegetables must be clean, without grit, uniformly cut, and must retain their original color.

Career MAP

The materials in LAP 5.14 cover or are related to the following Commercial Foods and Culinary Arts Career MAP (Career *M*erit *A*chievement *P*lan) competencies:

Identify and select fruits and vegetables.
Clean and store fruits and vegetables.
Peel vegetables by hand or machine.
Cut vegetables and fruits.
Prepare vegetable and fruit garnishes.
Bread and batter vegetables and fruits.
Puree vegetables and fruits.
Simmer, stew, or steam vegetables and fruits.
Stuff vegetables and fruits.
Deep fry vegetables and fruits.
Sauté vegetables and fruits.
Broil vegetables and fruits.
Bake fruits and vegetables.
Braise vegetables and fruits.
Glaze fruits and vegetables.
Turn vegetables.
Prepare processed fruits and vegetables.
Present vegetables and fruits for serving.

Special Needs

The following materials can be used for students who are educable mentally retarded/handicapped (EMR/EMH) or academically disadvantaged as an alternative to, or in addition to, this LAP:

Series: Career Related Instruction (CRI)
Occupational Cluster: Food Preparation and Service
Titles: *How to Prepare Fresh Vegetables for Cooking* (FPS FP 01 001)
How Do You Cook and Store Vegetables? (FPS FP 01 002)

Suggested Instructional Procedures

Individual Instruction

If you choose to have the student(s) use this LAP as a self-paced, self-instructional unit, have the student(s) follow the learning steps in the LAP, as listed below.

Learning Steps in LAP 5.14

1. Read and study **Information Sheet 1:** Vocabulary.
2. Complete **Activity 1:** Matching Vocabulary Words. Check your answers.
3. Read and study **Information Sheet 2:** Types of Vegetables.
4. Complete **Activity 2A:** Types of Vegetables. Check your answers.
5. Complete **Activity 2B:** Vegetables as Plant Parts. Check your answers.
6. Complete **Activity 2C:** Color of Vegetables. Check your answers.
7. Complete **Activity 2D:** Market Forms. Check your answers.
8. Read and study **Information Sheet 3:** Storing Vegetables.
9. Complete **Activity 3:** Storing Vegetables. Check your answers.
10. Read and study **Information Sheet 4:** Preparing Vegetables.
11. Complete **Activity 4A:** Preparing Vegetables. Check your answers.
12. Complete **Activity 4B:** Cutting Terms. Check your answers.
13. Complete **Activity 4C:** Practice Checklist—Prepare Vegetables. Ask your instructor which cooking method(s) to practice.
14. Get **Written Test 5.14** from your instructor and complete it. If you are successful, go on to Step 15; if not, talk with your instructor.
15. Have your instructor evaluate you on **Skills Test 5.14**. If you are successful, you have completed this LAP; if not, talk with your instructor.

Group Instruction

If you choose to use this LAP as a unit of instruction for more than one student, the following teaching steps are suggested.

Suggested Instructional Procedures (continued)

Teaching Steps for LAP 5.14

1. Introduce the subject of buying, preparing, and cooking vegetables.
2. Discuss the objectives in LAP 5.14.
3. Discuss the vocabulary words with the group.
4. Have each student read the information sheets and do the written activities in the LAP.
5. Discuss the different types of vegetables with the group.
6. Discuss storing vegetables with the group.
7. Discuss the rules for vegetable cookery with the group.
8. Demonstrate vegetable-cutting methods. Have students practice, with your assistance.
9. Demonstrate vegetable-cooking methods either by using the practice checklists in Activity 4C or by using practice checklists of your own choosing. Have students practice, with your assistance.
10. Give the students **Written Test 5.14** to complete. Evaluate the results, using the Answer Key in this Instructor's Guide. Make special arrangements for those who do not master this unit.
11. Use **Skills Test 5.14** to evaluate each student. Assign students who do not master tasks satisfactorily to practice more in the kitchen, with some assistance.
12. Use the additional instructional activities/enrichment with the group or with individual students.

Additional Instructional Activities/Enrichment

Suggested Readings

Haines, Robert G. *Food Preparation for Hotels, Restaurants, and Cafeterias*. 2nd ed. Alsip, Ill.: American Technical Publishers, 1973, pp. 225-300.

Filmstrips

Vegetable Treasures. Vitamin Information Bureau, Washington, DC 20409.

Maintaining Garden Freshness in Fruits and Vegetables. U.S. National Audio Visual Center, Washington, DC 20409.

Food Preparation: Vegetable Preparation Procedures and Cooking Methods. Prentice-Hall Media, 150 White Plains Road, Tarrytown, NY 10591.

Suggested Instructional Procedures (continued)

Film (16mm)

Preparation of Vegetables. Ohio State University, Motion Picture Division Film Library, 113 Townsend Hall, Columbus, OH 43210.

Written Test 5.14
I. Matching Vocabulary

Directions

Match each vocabulary word listed below with its correct definition. Write the letter of the definition in the blank beside the word.

Vocabulary Words

_____ 1. **nutrient**

_____ 2. **perishable**

_____ 3. **ventilate**

_____ 4. **uniform**

_____ 5. **pigment**

_____ 6. **dehydrated**

Definitions

a. having the same form, not varying; said of sizes, patterns, colors, etc.

b. to expose to moving air

c. a coloring substance in animals and plants

d. liable to decay (spoil or rot)

e. the water content has been removed

f. a substance or ingredient that provides nourishment, or food value

Written Test 5.14 (continued)
II. Types of Vegetables

Directions

Read the following statements. Choose the word or phrase that best completes each statement. Circle the letter of the correct answer.

1. The color of a vegetable is a clue to the correct _____.
   a. service and decoration
   b. storage and cooking
   c. menu preparation and service
   d. cooking method and time

2. Beets, carrots, and radishes are examples of _____.
   a. bulbs
   b. shoots
   c. tubers
   d. roots

3. Green vegetables should be cooked over _____ heat.
   a. low
   b. dry
   c. medium
   d. high

4. When selecting fresh vegetables, look for ones that are _____.
   a. firm
   b. soft
   c. young
   d. all of the above

5. When selecting fresh vegetables avoid those with _____.
   a. soft spots
   b. blemishes
   c. discoloration
   d. all of the above

6. Because of their convenience, _____ vegetables are popular in food-service establishments.
   a. prewashed
   b. precut
   c. fresh
   d. frozen

7. To cook fresh vegetables, you first _____.
   a. season them and then boil them
   b. simmer them
   c. bring water to a boil and then add the vegetables
   d. boil them in water

8. Always prepare canned vegetables _____.
   a. in large quantities
   b. the way you would fresh vegetables
   c. in small quantities
   d. the way you would frozen vegetables

Written Test 5.14 (continued)
II. Types of Vegetables

9. Dried beans and peas need to be _____ before they are cooked.
   a. dehydrated
   b. dried overnight
   c. seasoned
   d. soaked overnight

10. Overcooking can destroy the color of _____.
   a. green vegetables
   b. yellow vegetables
   c. red vegetables
   d. yellow, white, red, and green vegetables

Written Test 5.14 (continued)
III. Vegetables as Plant Parts

Directions

Read the statements below and look at the illustration of the imaginary plant. Fill in each blank with the correct word, chosen from the list of plant parts that follows.

1. Broccoli is a _____.
2. A tomato is a _____.
3. Celery is a _____.
4. A carrot is a _____.
5. A sweet potato is a _____.
6. A cabbage is a bunch of _____.
7. An onion is a _____.
8. Red kidney beans are _____.
9. A cucumber is a _____.
10. Lettuce is a bunch of _____.
11. An Irish potato is a _____.
12. Garlic is a _____.
13. Cauliflower is a _____.
14. An ear of corn is a group of _____.
15. A radish is a _____.
16. Spinach is a bunch of _____.

Plant Parts

fruit	seeds
flower	leaves
stem	tuber
bulb	root

Written Test 5.14 (continued)
IV. Color of Vegetables

Directions

Complete each statement by writing the letter of the correct cooking method in the blank beside the statement. Choose the correct cooking method from the list that follows.

1. String beans are green and _____.
2. Carrots are yellow and _____.
3. Corn is yellow and _____.
4. Cabbage is green and _____.
5. Irish potatoes are white and _____.
6. Squash is yellow and _____.
7. Spinach is green and _____.
8. White onions _____.
9. Peas are green and _____.
10. Sweet potatoes are yellow and _____.
11. Broccoli is green and _____.
12. Turnips are white and _____.

Cooking Methods

a. should be cooked with very little water in a pot covered with a lid; never overcook

b. should be cooked in just enough water to cover, without a lid, until tender

c. should be cooked over low heat in an uncovered pot until tender; never overcook and don't use baking soda

Written Test 5.14 (continued)
V. Market Forms

Directions

In the blanks below, write out the names of the four market forms of vegetables. Beside each market form, write the letter of the correct cooking method, chosen from the list that follows.

Market Forms

1. _____ ( )
2. _____ ( )
3. _____ ( )
4. _____ ( )

Cooking Methods

a. Should be washed carefully. All blemishes must be removed. These vegetables should be placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer. The vegetables should be cooked until they're just tender and then removed from the heat and allowed to cool.

b. Need to soak overnight to replace water.

c. Need only to be heated in their own liquid and seasoned before serving.

d. Should be thawed at refrigerator temperature and placed in boiling water. When the water begins to boil again, the heat should be lowered to a simmer and the vegetables cooked until just tender.

Written Test 5.14 (continued)
VI. Storing Vegetables

Directions

Read the following statements. Choose the word or phrase that best completes each statement. Circle the letter of the correct answer.

1. Proper storage of vegetables means keeping them as _____ as needed to preserve their nutrients.
   a. dry
   b. moist
   c. clean
   d. all of the above

2. All cut or peeled vegetables should be _____.
   a. kept in an open container
   b. refrigerated
   c. soaked overnight
   d. frozen

3. Most fresh vegetables should be _____.
   a. soaked overnight
   b. frozen
   c. refrigerated
   d. kept in an open container

4. Cans with defects should be _____.
   a. checked for spoilage
   b. exposed to sunlight
   c. refrigerated
   d. used immediately

5. Never _____ frozen vegetables that have been thawed.
   a. eat
   b. refreeze
   c. cook
   d. store

6. Always consider the _____ and _____ when storing vegetables.
   a. temperature, humidity
   b. humidity, moisture level
   c. moisture level, air quality
   d. temperature, air quality

7. Store dried vegetables _____.
   a. on shelves at room temperature
   b. in the refrigerator at 40°-50° F
   c. in sunlight at room temperature
   d. in water at 40°-50° F

8. All dried vegetables should be stored at _____.
   a. 0° F
   b. 45°-50° F
   c. room temperature
   d. 32°-40° F

Written Test 5.14 (continued)
VII. Preparing Vegetables

Directions

Read the following statements. Choose the word or phrase that best completes each statement. Circle the letter of the correct answer.

1. Cook vegetables until they are _____.
   a. appetizing
   b. soft
   c. crisp
   d. just tender

2. Use the cooking liquid when you _____ vegetables.
   a. reheat
   b. store
   c. flavor
   d. all of the above

3. Cut vegetables _____ for even cooking.
   a. uniformly
   b. into small pieces
   c. into large pieces
   d. into various shapes and sizes

4. All fresh vegetables should be _____ before they are cooked.
   a. cut
   b. dried
   c. washed
   d. stored

5. Vegetables with nonedible parts need to be _____ before cooking.
   a. minced
   b. washed
   c. trimmed
   d. diced

6. To cook vegetables in water, first _____ and then _____.
   a. boil the water, add the vegetables
   b. boil the water, add the seasonings
   c. boil the vegetables, add the seasonings
   d. peel the vegetables, add the seasonings

7. If vegetables remain in hot water after cooking, they will _____.
   a. lose their color
   b. continue to cook
   c. become too soft
   d. all of the above

8. An advantage of steam-pressure cooking over boiling is that steam-pressure cooking _____.
   a. preserves more color and is faster
   b. preserves more nutrients and is faster
   c. is safer and slower
   d. keeps vegetables from overcooking

Written Test 5.14 (continued)
VII. Preparing Vegetables

9. A steam-jacketed kettle provides _____.
   a. contact with the steam
   b. dry heat
   c. an even distribution of heat
   d. moist heat

10. Vegetables to be baked should have _____.
   a. good eating qualities
   b. resistance to dry heat
   c. a high water content
   d. a high vitamin content

11. Thick vegetables should _____ before frying.
   a. stay in the pan longer
   b. be uncoated
   c. remain whole
   d. be precooked and coated

12. The fat for deep-fat frying must not _____.
   a. be stored after use
   b. be used with salt
   c. turn brown or smoke
   d. be strained after use

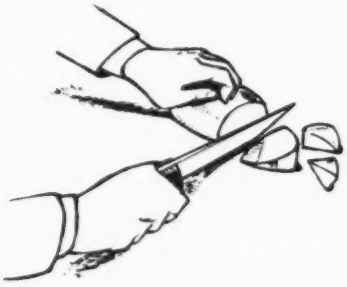
Written Test 5.14 (continued)
VIII. Cutting Terms

Directions

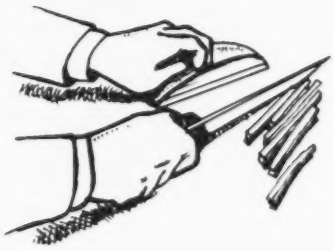
From the list of terms in the word bank below, choose the correct cutting term for each illustration. Write your answers in the spaces provided.

1. _____

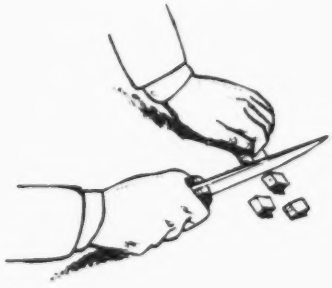
2. _____



3. _____



4. _____



5. _____

Word Bank

mince	julienne
cut	pare
cube	scrape
dice	slice
grate	score

Answer Key for Written Test

Each section in the Written Test covers one objective and, therefore, should be evaluated separately. Criteria for evaluating each section are suggested below.

I. To master this objective, the student should answer 5 out of 6 correctly.

1. f
2. d
3. b
4. a
5. c
6. e

II. To master this objective, the student should answer 9 out of 10 correctly.

1. d
2. d
3. a
4. a
5. d
6. d
7. c
8. c
9. d
10. d

III. To master this objective, the student should answer 13 out of 16 correctly.

1. flower
2. fruit
3. stem
4. root
5. tuber
6. leaves
7. bulb
8. seeds
9. fruit
10. leaves
11. tuber
12. bulb
13. flower
14. seeds
15. root
16. leaves

IV. To master this objective, the student should answer 10 out of 12 correctly.

1. c
2. a
3. a
4. c
5. b
6. a
7. c
8. b
9. c
10. a
11. c
12. b

V. To master this objective, the student should answer all of these correctly.

1. fresh (a)
2. canned (c)
3. frozen (d)
4. dried (b)

VI. To master this objective, the student should answer 7 out of 8 correctly.

1. d
2. b
3. c
4. a
5. b
6. a
7. a
8. c

VII. To master this objective, the student should answer 10 out of 12 correctly.

1. d
2. a
3. a
4. c
5. c
6. a
7. d
8. b
9. c
10. c
11. d
12. c

Answer Key for Written Test (continued)

VIII. To master this objective, the student should answer 4 out of 5 correctly.

1. dice
2. cut
3. mince
4. slice
5. julienne

Skills Test 5.14
Vegetables

Student's Name _____ Date _____

The Student Can:	Yes	No
I. Clean, trim, and cut vegetables.		
1. Organized work area for efficient preparation before beginning.	___	___
2. Followed procedures correctly.	___	___
3. Produced an acceptable product. Criteria: Are the vegetables clean? Have all blemishes been removed? Are the vegetables cut uniformly? Are they cut correctly? Have they kept their natural color?	___	___
4. Cleaned work area well.	___	___
II. Prepare vegetables. (Use for all methods.)		
1. Organized work area and ingredients for efficient preparation before beginning.	___	___
2. Followed recipe correctly.	___	___
3. Followed procedures correctly.	___	___
4. Produced an acceptable product. Criteria: Have the vegetables kept their shape and color? Are they easy to cut, but not too soft? Are fried vegetables free of excess grease, crisp, and evenly browned?	___	___
5. Cleaned work area well.	___	___

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